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ABSTRACT

Rapidly advancing technology presents challenges in the education of helping professionals. With these challenges come limitless opportunities. Using technology, professionals reach more people, individualize therapeutic approaches, access more resources, and support different learning styles. And they become lifelong learners themselves as they develop new skills and methods of interacting with clients and colleagues alike. But dangers abound, the biggest being missed opportunities. Competent professionals must take the lead in implementing technologies that save time and make work more productive. They can use roadmaps created by a variety of professions. This chapter supplies illustrations incorporating technology in instruction and development with examples drawn from medicine, business, psychology, education, and counseling. Specific recommendations, based on sound theoretical practice, case studies, and actual experiences in counseling, are examined. Action strategies revolve around critical issues of time, funding, ownership, recognition, promotion, accreditation and profession development needs. Specifically they include utilizing available resources, adapting existing on-line and distance learning resources, focusing on the individual learner, and utilizing the technology continuum. (Contains 52 references.) (MKA)

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Cyberspace Education and Lifelong Learning for Professionals: Dangerous Opportunities

Linda Sattem, Kathryn Reynolds,
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Rapidly advancing technology presents challenges in the education of helping professionals. With these challenges, come limitless opportunities. Using technology, professionals reach more people, individualize therapeutic approaches, access more resources, and support different learning styles. Professionals apply new methods of evaluation and research to old problems. And they become lifelong learners themselves as they develop new skills and methods of interacting with clients and colleagues alike.

But dangers abound. Some professionals see technology as a panacea; many others are still reluctant, afraid, or unaware of how best to apply it in their education, practice, and profession. Critical questions have yet to be answered concerning on-line clinical education and supervision, service, assessment, and scholarship. Educators must learn to adapt rapidly, increase interprofessional collaboration, and become technologically more savvy. The biggest danger for professionals lies in missed opportunities. If they do not incorporate and embrace promising technological advances in their education and development, they will be ill prepared to provide critical clinical services in the new millennium.

This chapter supplies illustrations incorporating technology in instruction and development with examples drawn from medicine, business, psychology, education, and counseling. Specific recommendations, based on sound theoretical practice, case studies, and

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actual experiences in counseling, are examined. Action strategies revolve around critical issues of time, funding, ownership, recognition, promotion, accreditation, and professional development needs (e.g., continuing professional education requirements).

MAJOR CONCEPTS

A basic construct in the education of professionals is that lifelong learning should be tailored to individual clinical practice (Manning & DeBakey, 1992). Educational processes found in many helping professions thwart this goal. Too often, professionals suffer from a disconnection between learning preservice (courses, supervision, practica, and internships) and professional development like continuing professional education, mandatory continuing education, medical continuing education, in-service and on-the-job training, supervision, and case consultation (Barnes, 1998). To make the greatest impact, learning, in both preservice and professional development, must be seamless.

The educational curricula of professionals are frequently not applicable to actual practice in the real world. Faculty, the gatekeepers into all the professions, must develop new instructional and technical competence and provide more evidence-based, problem-oriented learning approaches in preservice education. The most frequent providers of continuing professional education—colleges and universities—also have a great influence on professional development (Sattem, 1997).

Many preservice learners see themselves as "consumers," with education as a means to an end. They want their education "in the workplace to solve real-world, meaningful problems" (Lowther, Bassoppo-Moyo, & Morrison, 1998, p. 93). Most of these learners see technological proficiency and information literacy as cornerstones of their professions. Miller (1998) proclaimed that technology will "offer the advantages of access, speed, and flexibility and will serve as a major mode of accelerating learning and building information capacity and global knowledge" (p. 26).

Learners are wholeheartedly supporting the new educational choices before them. With these choices, learners have more options and involvement. Sloane (1997) agreed that using technology and resources like the World Wide Web allows learners greater con-

trol of their own educational destinies. With more input into the learning process, more individualized approaches, and better access to current information, today's learners are able to achieve a higher level of competence. This, in turn, prepares them to function more effectively in a highly competitive world. A downside for traditional education is that learners have even less loyalty to a single educational organization or profession. The world is now their university!

THE TECHNOLOGICAL CONTINUUM

Educational organizations providing preservice and/or professional development can assess their own developmental evolution along a continuum from traditional, with minimal use of technology (low tech), to progressive, where technology is fully integrated in the learning process (high tech). High tech, however, does not refer to the complete abandonment of traditional educational methods.

Low Tech

In low-tech educational content and delivery, even when there is no computerized instruction in courses or workshops, learners and educators might use computers for research and word processing. Casey (1995) viewed those who still use older technologies (typewriters, audiotapes, filmstrips, and telephones) as "laggerts." These laggert educators lose credibility and appear less relevant to learners who are often more technologically advanced. When learners lose faith in traditional processes, they are more likely to look elsewhere for education and future training.

Breivik defined an information literate student as one who has "mastered the abilities to locate, organize, evaluate, and communicate information" (1998, p. 3). As new technology is integrated into professional education curricula, both learners and educators must integrate it into their own lives as well.

Mid Tech

Mid tech falls in the middle of the technology continuum. In this category technology is used in the content, assignments, and/or as part of the delivery process. Both students and faculty need to be technologically proficient in order to operate in the middle of the

continuum (Masys, 1998). An example of an effort to prepare learners and move them to mid-tech competence is found with the University of Phoenix's counselor education course on the use of computers and technology (V. Stromee, personal communication, July 12, 1999).

The mid-tech use of technology in supervision is found in numerous settings. Typically it is combined with in-person contact through individual or group supervision. The technical components of many counselor preservice supervision models include e-mail, listservs, mailing lists, bulletin board discussion groups, usenet news groups, and on-line assignments (Casey, Bloom, & Moan, 1994; Myrick & Sabella, 1995). A major benefit of mid-tech supervision is the cost-effective use of experts (Sampson, Kolodinsky, & Greeno, 1997).

Casey (1995) has been concerned about educators as "mass acceptors" who move to accept technology only because they are forced to do so. Although not everyone can be an "innovator" or an "early adopter" of new technology, Casey wanted, at the very least, to see more educators become "opinion leaders" by embracing and promoting technology to expand professional effectiveness without having technology as the total focus.

Maddux (1998) wondered why the Internet has not improved education more. He surmised that because of other funding priorities and inflexible attitudes, technology is not yet viewed as a basic educational tool. "With certain notable exceptions, the higher up the university administrative chain one goes, the better the chance of finding computer illiteracy" (p. 9). Some university administrators, such as many known by this chapter's authors at Wright State University (WSU) in Ohio, have questioned this assessment. Although they have both expertise and a willingness to use technology on campus, the basic lack of fiscal resources to support the needed high-tech infrastructure and personnel is still a problem.

High Tech

High-tech content and delivery efforts incorporate technology-based instructional delivery, with on-line courses leading to degrees. In 1996 there were nearly 100 degree and certification programs offered through the Internet (Hirumi & Bermudez,

1996). *Training Magazine* (Ganzel, 1997) reported that some form of distance learning occurs in over half of all organizations. Of course, this trend is replicated in nearly 100% of institutions of higher learning. Imel (1996) estimated that within 20 years the current models of learning and higher education will cease to exist.

High-tech supervision is in place at the University of Florida's counseling department (R. Myrick, personal communication, July 7, 1999). Students there communicate with faculty and classmates through e-mail, departmental listservs, and networks. Students have access to the Internet for research. Each is required to develop his or her own web page where assignments are posted. They also prepare multipurpose PowerPoint presentations targeting specific populations. These presentations may be revised and used again as resource pages.

In another high-tech example, Christie (1998) examined an integrated model for distance clinical supervision for counselors, which follows four interns for a semester. After the initial class meeting, and barring any emergency, all future contact with the professor was on-line. Christie paid careful attention to ethical and logistical issues in this study.

Professional associations and organizations are beginning to take leadership roles in creating basic standards and competencies for learners and, in some cases, their educators. The Association for Counselor Education and Supervision has taken a leadership position in development of technical competencies for counselor education students and guidelines for on-line instruction in counselor education (ACES, 1999a). These guidelines examine course quality and content, objectives, instructional support, faculty qualifications, evaluation, technological standards, and grievance procedures. ACES's Technology Interest Network has also developed a set of technical competencies counseling students should master before graduation (ACES, 1999b). (See Appendix 2.)

The National Board for Certified Counselors advocates for and offers continuing professional education through emerging technology (Leary, 1998). The Council for Accreditation of Counseling and Related Educational Programs is currently revising its standards to include technology and distance learning in preservice preparation (Bobby, 1998). The Association of College and Research Libraries

(ACRL) has also developed a draft of information literacy competency standards for higher education. The ACRL draft enumerates specific standards, performance indicators, and measurable outcomes for the information literate learner (ACRL, 1999).

Administrators need to recognize the impact of reordering priorities with faculty development, assessment, research time, and control of student learning environments (Breivik, 1998). Maddux (1998) agreed that

> university administrators at all levels need to recognize the need for information technology instruction in all disciplines. Merit plans for faculty must be structured to reward the integration of technology into all courses, and in-service programs must be instituted to help existing faculty develop needed skills and attitudes. (p. 9)

Administrators must solve the problems of hardware and time constraints. Technology is expensive, time consuming, and frequently outdated within 6 months. Learners are interested in convenience; but are they willing to pay for the increased cost? Educator recognition, technology integration throughout the curriculum, and professional collaboration are key points to consider.

RECOMMENDED ACTION STRATEGIES

The action strategies recommended in this section are based on the integration of technology in both preservice and professional development programs. Three major themes emerge: technology integration is multidisciplinary; technology use is viewed as valid, necessary, and worthy of merit; and education is learner driven.

Utilize Available Resources

Effective utilization of available resources requires consideration of organization-wide support, multidisciplinary approaches, community resources, resource development, technology across the curriculum, recognition, and national standards.

- **Organization-wide support:** Support should be on an organization-wide basis. This includes all administrators, educators, and staff in organizations. Breivik (1998) suggested that adminis-

trators take a four-pronged approach to garner support: move forward, make a commitment, develop a plan, and sell the vision. She also recommended that institutions and educators utilize more resource-based models of learning while insisting that new methods of delivery permeate the curriculum (1998). Organization-wide support must include financial and resource support as well.

- **Multidisciplinary approaches:** There are varying degrees of technological competence in most organizations. Existing resources can be used for cross training and support, and creative pooling of shared resources offers new solutions. Often neglected educational resources include computing and technology centers, libraries, centers for teaching and learning, campus web masters, and knowledgeable learners and faculty from other disciplines. Breivik (1998) recommended that education programs be willing to form academic partnerships with these various learner and educational services. This can be difficult. Often the technically competent resource persons (educators and learners) are in great demand and stretched thin.

  Learners themselves are the most frequently untapped resources. Many learners and practicing professionals are already highly skilled in the uses of technology. They could serve as peer tutors, mentors, and coaches. For instance, academic librarians are information and subject specialists who instruct classes; create on-line guides, tutorials, and bibliographies; and serve as consultants for faculty instruction and research. They develop web pages to support university curricula. At Wright State University, for example, the education and human services librarian has developed lengthy on-line research guides for counseling and education students and faculty (Reynolds, 1999a). Through these guides, faculty and students have remote access to the library catalog, multiple databases, full-text scholarly journals, and the Internet. Reynolds has also created a massive web site with categories supporting various interests and degree concentrations in WSU's Department of Human Services (Reynolds, 1999b). These and similar resources are widely used for student and faculty research and instruction.
- **Community resources:** Counseling, psychology, social work, rehabilitation, nursing, and education department and faculty

web pages serve as models for those interested in developing resources on the Internet. Counseling and mental health listservs such as California State University Northridge's (1999) Counseling Discussion Groups or Robert Bischoff's (1999) ShrinkTank bulletin board service provide beginners with sounding boards as well as networking forums with colleagues. Other community resources geared to counselors include Behavior On-Line (Levin, 1999), the Counselor Education Resource Center at Florida Gulf Coast University (Sabella, 1999), World Counseling Network (http://www.CounselingNetwork.com), the Counseling Web (http://seamonkey.ed.asu.edu/~gail/resource.htm), CounselorLink (Hutt, 1998), Dr. Bob's Mental Health Links (Hsiung, 1999), and John Grohol's PsychCentral (1999) and Mental Health Net (1999).

The Greater Dayton Area Health Information Network (http://www.gdahin.org) is an example of a community-wide effort that targets the health field. Members of the network include hospitals, universities, individuals, and organizations. Professional development efforts include training, resources, and education that are current and easily accessible.

Business and industry have been technology leaders for decades. Some provide continuing training not only to their staff by also to educational, civic, and service organizations. NCR, the giant, multinational corporation, has created NCR University (NCRU) for its staff and customers. NCRU's web page includes news and information about hundreds of courses it offers by location and topic (in classroom, CD ROM, audio/video, web-based, and video teleconferencing/downlink). NCR is committed to continued learning because acquiring, sharing, and using improved technical skills and knowledge gives a "competitive advantage" (NCR, 1999). Educators should look closely at this model. Its educational philosophy more closely matches the needs of today's learners than do most traditional higher education programs.

Lucent Technologies is another example of a large corporation making technological training and advanced education possible through its Center for Excellence in Distance Learning (CEDL). The CEDL works closely with universities that are recognized

leaders in distance education learning (including Indiana University, Penn State University, and the University of Wisconsin-Extension). Through such collaborations, the diversity of distance learning resources is increased to business departments, employees, and customers as well as to university students, staff, and faculty (Lucent Technologies, 1999). The CEDL serves as a model for collaboration and shared resources.

- **Resource development:** Existing resources must be allocated to support technology initiatives across campus. Early on, administrators might use one-time start-up funds, university grants, competitive awards for excellence, or student technology fees to begin building the technology program. They may apply for resources from federal, state, local, and community organizations and agencies. The best start-up approach is to begin collaborating with colleagues and departments around campus. Identify those who share common interests. For example, at Wright State University, when the library needed a computer lab, the Computer and Telecommunications Services Department needed more space, and the Center for Teaching and Learning needed both labs and space, the three worked together to share resources. The computing department built a lab in the library classroom. Both units shared the space and equipment with the Center for Teaching and Learning, which, in turn, shared its instructional expertise with both. However, now that all this is in place, ongoing budgeting support must be maintained.
- **Technology across the curriculum:** All educational efforts must include learners' exposure to, and use of, technology in every course, workshop, internship, practicum, and continuing education and training program. This curricular immersion may range from use of technology as supportive educational resource to its mandatory use in classes, or as preferred method of information delivery to total distance learning with no on-campus (or on-site) contact required. Universities have successfully implemented similar sweeping curriculum changes in the past when they adopted "writing across the curriculum" guidelines in the 1980s and 1990s. The National Council for the Accreditation of Teacher Education (http://www.ncate.org) expects all courses to have a technological component infused in the curriculum.

- **Recognition:** Educators' involvement in technology should be encouraged and rewarded. They need time to create, develop, and design on-line classes, tutorials, and workshops. If they have work published in reputable, on-line journals or maintain significant counseling sites on the Internet, these efforts should be evaluated and valued along with their other scholarly and service activities. This recognition of merit must be included in their promotion and tenure process. In the near future, administrators and educators must also grapple with the issue of ownership of cyberspace resources. When educators create web-based courses, tutorials, and professional web sites, who owns the rights to the information, to the class, to the site? At most institutions in higher education, this is the subject of intense negotiation with many innovative models emerging. Although complicated, ownership and copyright will be clarified in time.
- **National standards:** Continued leadership by professional associations and organizations is essential. When they develop guidelines, standards, and basic competencies for technology use, they serve as models for all educational programs. Adoption of these guidelines is critical to professions. Learners and educators must support the cybereducation efforts of the American Counseling Association (http://www.counseling.org), the American Psychological Association (http://www.apa.org), Council for Accreditation of Counseling and Related Educational Programs (http://counseling.org/cacrep), ACES (1999a, 1999b), NBCC (http://www.nbcc.org), National Council for Accreditation of Teacher Education (http://www.NCATE.org), and the U.S. Departments of Health and Human Services (http://www.os.dhhs.gov) and Education (http://www.ed.gov). The many state associations, agencies, and interest groups also need professionals' support. They too can play a leadership role and act as models for the profession. In all cases, these associations and organizations provide invaluable resources to their members and to professions.

Adapt Existing On-Line and Distance Learning Resources

Although there are literally millions of resources on the Internet, professionals sometimes have difficulty knowing where to begin.

Books are a good place to start. Numerous Internet guides have been published that could be used as reference guides or textbooks. One of the best is Karger and Levine's (1999) *The Internet and Technology for the Human Services*. Grackenbach's *Psychology and the Internet: Intrapersonal, Interpersonal, and Transpersonal Implications* (1998) and Rheingold's on-line book *The Virtual Community* (1998) examine the psychology and sociology of cyberculture. Harrison's (1999) book offers very specific, step-by-step directions for the analysis, design, development, testing, and implementation of distance learning programs. Porter's (1997) book gives background and an overview of the issues surrounding distance education. Palloff and Pratt's (1999) book looks at defining and building communities in cyberspace. All of these books are important guides to both practical and theoretical concerns.

Resources for learners include *Internet Companion for Abnormal Psychology* (Hamel & Ryan-Jones, 1998), *Quick Guide to the Internet for Psychology* (Whitford, 1998), *Guide to the Internet in Educational Psychology* (Bissell & Newhoff, 1997), and *Psychology on the Internet: A Student's Guide* (Stull, 1997). Literature searches in databases like ERIC (http://www.uneg.edu/edu/ericcass) and PsycInfo (http://utcat.library.utoronto.ca:8002/pschi_deser.html) pull hundreds of articles about on-line instruction and distance learning. They too reflect the burgeoning interest in cybereducation. Journals of special interest to educators are *Computers and Education*, *Computers in Human Services*, *Computers in Teaching*, *Teaching of Psychology*, and the new electronic journal for educators and practitioners, the *Journal of Technology in Counseling* housed at Columbus State University in Georgia (http://jtc.colstate.edu).

Educators will find a multitude of distance learning resources on the Internet as well. Premier sites include the World Lecture Hall (http://www.utexas.edu/world/lecture/index.html), Globewide Network Academy (http://www.gnacademy.org), and, LibrarE (http://www.librare.com/li-fr3ac.htm). Other recommended sites with in-class exercises, projects, course syllabi, and relevant web links include Suler's (1999) *Teaching Clinical Psychology*; Krantz's (1999) *Psychological Tutorials and Demonstrations*; *Internet Guides, Tutorials, and Training Information* from the Library of Congress (1998); *Counseling Courses and Syllabi* (1999); and Internet Medi-

ated Learning's (1999) *Resources to Use in Creating On-Line Web-Based Courses*. John Barnes (1998) at Pennsylvania State University (PSU) has also created a web site many educators could emulate: *Foundations of Chemical Dependency Counseling*. PSU also offers undergraduate, graduate, professional degrees, certification, and continuing professional education in other diverse areas through their World Campus Learning Community (http:www.worldcampus.psu.edu.8900/public/CNED4012/index.html).

Goldberg (1999), the executive director of the Global Institute for Interactive Media, has discussed a wide array of issues involved in offering on-line classes, including software selection, assignments, teaching approaches, and maintenance functions (such as on-line atmosphere and codes of civility). Ivanoff and Clarke (1996) also have examined issues surrounding the creation of a course web site for learners by questioning design, content, and intellectual property issues.

Focus on the Individual Learner

Though some learners prefer face-to-face interaction in traditional classes, technology can accommodate the learning styles, needs, and objectives of individual learners. It allows for the development of more self-paced, customized learning packages, and more individualized instruction. Again, though not absolute, technology allows professional education to be seamless, with no artificial separation between preservice learning and professional development. PBS's Adult Learning Service Online (http://pbs.bilkent.edu.tr/adultlearning/als) is a good example of a web site developed with adult learners in mind. Because it provides degree programs, workforce education, literacy instruction, and business training programs to adults, it supports their critical learning needs.

Utilize the Technology Continuum

Determine where the organization is on the technology continuum and consider moving beyond mid tech and toward total technological integration. Avoid using technology for the razzle dazzle. The most important questions raised here include Will on-line courses enhance or impede the learning process and delivery of in-

formation? Will on-line supervision during training and education offer the learners what they need? Technology is not an end in itself. It is a tool that allows many learners to maximize their learning potential. Professionals must continue to pose these questions as they move to the new millennium.

CONCLUSION

"Technology is a train that stops for no one. It keeps moving whether you get onboard or not" (Karger & Levine, 1999, p. 312). Some human service professionals have been slow to queue up to the train because they are fearful or overwhelmed by the challenges technology creates for them. When human service professionals examine technology closely, they find but another useful tool to add to their repertoire of skills. According to Karger and Levine (1999), the problem is not with the "potential of technologies but with the way they are implemented" (p. 312). Technology is a tool, not a panacea. In light of these new expectations, educators must reevaluate and redesign their programs and curriculums to help meet the educational needs of learners and practicing professionals alike. They can use roadmaps created by a variety of professions, such as business, medicine, and psychology, to chart their future course.

As competent professionals, we must take the lead in implementing technologies that save time and make our work more productive. We must also redefine who and what we are and the directions we wish to take our professions in the 21st century.

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